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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,767	03/29/2006	Martin Hagg	E7900.2063/P2063	9921

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EXAMINER	
HAMO, PATRICK	

ART UNIT	PAPER NUMBER
3746	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,767	HAGG ET AL.	
	Examiner	Art Unit	
	PATRICK HAMO	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,8,10,11,14-17,19-21,23,25,27,28,30,32 and 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,8,10,11,14-17,19-21,23,25,27,28,30,32 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to amendments filed on February 1, 2011.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 8, 10, 11, 14-17, 19-21, 23, 25, 27, 28, 30, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atkinson, US 4,635,621, in view of Simmons, US 4,543,044.

In regard to claim 1:

Atkinson discloses a surgical fluid pump system for transporting a sterile fluid from a source 15 to a surgical instrument 27, the system comprising a drive system 53a, a pump system 51 comprising an inlet 19 for establishing a fluid connection the source and an outlet 23 for connection to the instrument, a pump 51a having a piston 179 that contacts the fluid having a suction cycle and an output cycle (see fig. 5), conduit 19, 23 and valve 174a, 176a devices for providing the fluid path, the pump releasably coupled to the motor at pin 61.

Atkinson does not disclose that the motor drives the system in such a way that a suction cycle is shorter than an output cycle and that fluid is supplied with substantially

constant pressure, nor does Atkinson disclose multiple pumps with separately controllable drive motors, and an electronic control system for controlling the drive motors by setting a piston velocity profile for first and second pumps. However, Simmons teaches a constant flow rate dual unit pump with two pump units A and B each driven by a fluid motor with separately controlled valving (valves G and L for pump unit A, valves H and M for pump unit B) such that the pumps are separately controlled and actuated, the control of the valves that operate the fluid motors controlled by electronic limit switches 30, 31, 33 and 34, the limit switches determining a piston velocity profile for each pump described by comparing figs. 1-5, wherein the suction cycle of each pump is shorter than the output cycle of each pump (compare figs. 1-5 and see col. 5, line 42 - col. 7, line 25) and the output cycles of the first and second pumps A and B overlap so that fluid is supplied at constant pressure (see fig. 3, col. 7, lines 9-17). It would have been obvious to a person having ordinary skill in the art to have modified the pumping system of Atkinson with the teaching of Simmons allowing for variable rate control to produce a smooth constant pressure delivery as the application of a known technique (variable rate control to produce constant pressure output) to a known device (the motor/pump system of Atkinson) to achieve the predictable result of providing a constant pressure fluid output.

In regard to claim 2:

Atkinson discloses a surgical fluid pump system for transporting a sterile fluid from a source 15 to a surgical instrument 27, the system comprising a drive system 53a, a disposable pump system 51 comprising an inlet 19 for establishing a fluid connection

the source and an outlet 23 for connection to the instrument, and having a piston 179 that contacts the fluid, the pump releasably coupled to the motor at pin 61.

Atkinson does not disclose that the pump system comprises three pumps, each having a piston that contacts the fluid with input and output cycles, wherein a separately controllable drive motor is provided for each of the three pumps, an electronic control system controlling the drive motors and setting a piston velocity profile for each of the three pumps, the drive system driving the system such that the suction and output cycles of the three pumps overlap one another. However, Simmons teaches a constant flow rate dual unit pump with two pump units A and B each driven by a fluid motor with separately controlled valving (valves G and L for pump unit A, valves H and M for pump unit B) such that the pumps are separately controlled and actuated, the control of the valves that operate the fluid motors controlled by electronic limit switches 30, 31, 33 and 34, the limit switches determining a piston velocity profile for each pump described by comparing figs. 1-5, wherein the suction cycle of each pump is shorter than the output cycle of each pump (compare figs. 1-5 and see col. 5, line 42 - col. 7, line 25) and the output cycles of the first and second pumps A and B overlap so that fluid is supplied at constant pressure (see fig. 3, col. 7, lines 9-17). It would have been obvious to a person having ordinary skill in the art to have modified the pumping system of Atkinson with the teaching of Simmons allowing for variable rate control to produce a smooth constant pressure delivery as the application of a known technique (variable rate control to produce constant pressure output) to a known device (the motor/pump system of Atkinson) to achieve the predictable result of providing a constant pressure fluid output.

In regard to the claim limitation that there are three pumps, a mere addition of a third pump constituting a duplication of parts has no patentably significance unless a new and unexpected result is produced. See MPEP 2144.04(6)(B).

In regard to claim 3:

The suction cycle of each of the first and second pumps A and B in Simmons is shorter than the output cycle of each pump, see figs. 1-5.

In regard to claim 4:

The output cycles of pumps A and B of Simmons overlap at the phase shown in fig. 3 (col. 7, lines 9-17).

In regard to claim 8:

Atkinson discloses a rotary drive motor adapted to drive the piston. It would have been obvious to a person having ordinary skill in the art that either a rotary motor or a fluid motor as taught by Summers may be used in conjunction with a velocity control system as discussed in the rejection of claim 2 above.

In regard to claim 10:

The output cycles of pumps A and B of Simmons overlap at the phase shown in fig. 3 (col. 7, lines 9-17).

In regard to claim 11:

Simmons' pump system provides substantially constant pressure, as discussed above.

In regard to claim 14:

Atkinson discloses a surgical fluid pump system for transporting a sterile fluid from a source 15 to a surgical instrument 27, the system comprising a drive system 53a, a disposable pump system 51 comprising an inlet 19 for establishing a fluid connection the source and an outlet 23 for connection to the instrument, and having a piston 179 that contacts the fluid, the pump releasably coupled to the motor at pin 61.

Atkinson does not disclose that the motor drives the system in such a way that a suction cycle is shorter than an output cycle and that fluid is supplied with substantially constant pressure, nor does Atkinson disclose multiple pumps with separately controllable drive motors, and an electronic control system for controlling the drive motors by setting a piston velocity profile for first and second pumps. However, Simmons teaches a constant flow rate dual unit pump with two pump units A and B each driven by a fluid motor with separately controlled valving (valves G and L for pump unit A, valves H and M for pump unit B) such that the pumps are separately controlled and actuated, the control of the valves that operate the fluid motors controlled by electronic limit switches 30, 31, 33 and 34, the limit switches determining a piston velocity profile for each pump described by comparing figs. 1-5, wherein the suction cycle of each pump is shorter than the output cycle of each pump (compare figs. 1-5 and see col. 5, line 42 - col. 7, line 25) and the output cycles of the first and second pumps A and B overlap so that fluid is supplied at constant pressure (see fig. 3, col. 7, lines 9-17). It would have been obvious to a person having ordinary skill in the art to have modified the pumping system of Atkinson with the teaching of Simmons allowing

for variable rate control to produce a smooth constant pressure delivery as the application of a known technique (variable rate control to produce constant pressure output) to a known device (the motor/pump system of Atkinson) to achieve the predictable result of providing a constant pressure fluid output.

In regard to claim 15:

The suction cycle of each of the first and second pumps A and B in Simmons is shorter than the output cycle of each pump, see figs. 1-5.

In regard to claim 16:

Simmons' pump system provides substantially constant pressure, as discussed above.

In regard to claim 17:

Atkinson discloses a rotary drive motor adapted to drive the piston. It would have been obvious to a person having ordinary skill in the art that either a rotary motor or a fluid motor as taught by Summers may be used in conjunction with a velocity control system as discussed in the rejection of claim 14 above.

In regard to claim 19:

Atkinson discloses a surgical fluid pump system for transporting a sterile fluid from a source 15 to a surgical instrument 27, the system comprising a drive system 53a, a pump system 51 comprising an inlet 19 for establishing a fluid connection the source and an outlet 23 for connection to the instrument, a pump 51a having a piston 179 that contacts the fluid having a suction cycle and an output cycle (see fig. 5), conduit 19, 23

and valve 174a, 176a devices for providing the fluid path, the pump releasably coupled to the motor at pin 61.

Atkinson does not disclose that the pump system comprises at least three pumps, each having a piston that contacts the fluid with input and output cycles, wherein a separately controllable drive motor is provided for each of the three pumps, an electronic control system controlling the drive motors and setting a piston velocity profile for each of the three pumps, the drive system driving the system such that the suction and output cycles of the three pumps overlap one another. However, Simmons teaches a constant flow rate dual unit pump with two pump units A and B each driven by a fluid motor with separately controlled valving (valves G and L for pump unit A, valves H and M for pump unit B) such that the pumps are separately controlled and actuated, the control of the valves that operate the fluid motors controlled by electronic limit switches 30, 31, 33 and 34, the limit switches determining a piston velocity profile for each pump described by comparing figs. 1-5, wherein the suction cycle of each pump is shorter than the output cycle of each pump (compare figs. 1-5 and see col. 5, line 42 - col. 7, line 25) and the output cycles of the first and second pumps A and B overlap so that fluid is supplied at constant pressure (see fig. 3, col. 7, lines 9-17). It would have been obvious to a person having ordinary skill in the art to have modified the pumping system of Atkinson with the teaching of Simmons allowing for variable rate control to produce a smooth constant pressure delivery as the application of a known technique (variable rate control to produce constant pressure output) to a known device (the motor/pump system of Atkinson) to achieve the predictable result of providing a

constant pressure fluid output. In regard to the claim limitation that there are three pumps, a mere addition of a third pump constituting a duplication of parts has no patentably significance unless a new and unexpected result is produced. See MPEP 2144.04(6)(B).

In regard to claim 20:

The output cycles of pumps A and B of Simmons overlap at the phase shown in fig. 3 (col. 7, lines 9-17).

In regard to claim 21:

Simmons' pump system provides substantially constant pressure, as discussed above.

In regard to claim 23:

Atkinson discloses that the pump is a disposable unit.

In regard to claim 25:

Atkinson discloses a rotary drive motor adapted to drive the piston. It would have been obvious to a person having ordinary skill in the art that either a rotary motor or a fluid motor as taught by Summers may be used in conjunction with a velocity control system as discussed in the rejection of claim 19 above.

In regard to claim 27:

Atkinson discloses a surgical fluid pump system for transporting a sterile fluid from a source 15 to a surgical instrument 27, the system comprising a drive system 53a, a disposable pump system 51 comprising an inlet 19 for establishing a fluid connection

the source and an outlet 23 for connection to the instrument, and having a piston 179 that contacts the fluid, the pump releasably coupled to the motor at pin 61.

Atkinson does not disclose that the pump system comprises at least three pumps, each having a piston that contacts the fluid with input and output cycles, wherein a separately controllable drive motor is provided for each of the three pumps, an electronic control system controlling the drive motors and setting a piston velocity profile for each of the three pumps, the drive system driving the system such that the suction and output cycles of the three pumps overlap one another. However, Simmons teaches a constant flow rate dual unit pump with two pump units A and B each driven by a fluid motor with separately controlled valving (valves G and L for pump unit A, valves H and M for pump unit B) such that the pumps are separately controlled and actuated, the control of the valves that operate the fluid motors controlled by electronic limit switches 30, 31, 33 and 34, the limit switches determining a piston velocity profile for each pump described by comparing figs. 1-5, wherein the suction cycle of each pump is shorter than the output cycle of each pump (compare figs. 1-5 and see col. 5, line 42 - col. 7, line 25) and the output cycles of the first and second pumps A and B overlap so that fluid is supplied at constant pressure (see fig. 3, col. 7, lines 9-17). It would have been obvious to a person having ordinary skill in the art to have modified the pumping system of Atkinson with the teaching of Simmons allowing for variable rate control to produce a smooth constant pressure delivery as the application of a known technique (variable rate control to produce constant pressure output) to a known device (the motor/pump system of Atkinson) to achieve the predictable result of providing a

constant pressure fluid output. In regard to the claim limitation that there are three pumps, a mere addition of a third pump constituting a duplication of parts has no patentably significance unless a new and unexpected result is produced. See MPEP 2144.04(6)(B).

In regard to claim 28:

Simmons' pump system provides substantially constant pressure, as discussed above.

In regard to claim 30:

Atkinson discloses that the pump is a disposable unit.

In regard to claim 32:

Atkinson discloses a rotary drive motor adapted to drive the piston. It would have been obvious to a person having ordinary skill in the art that either a rotary motor or a fluid motor as taught by Summers may be used in conjunction with a velocity control system as discussed in the rejection of claim 19 above.

In regard to claim 34:

Atkinson discloses a surgical fluid pump system for transporting a sterile fluid from a source 15 to a surgical instrument 27, the system comprising an inlet 19 for establishing a fluid connection the source and an outlet 23 for connection to the instrument, having a piston 179 that contacts the fluid and applies pressure to the fluid, conduit 19, 23 and valve devices 174a, 176a, providing a fluid path between the inlet, the pump, and the outlet, valve device 174a prohibiting an outflow of fluid at the inlet and 176a prohibiting an inflow at the outlet.

Atkinson does not disclose that the motor drives the system in such a way that a suction cycle is shorter than an output cycle and that fluid is supplied with substantially constant pressure, nor does Atkinson disclose multiple pumps with separately controllable drive motors, and an electronic control system for controlling the drive motors by setting a piston velocity profile for first and second pumps. and a portion of the fluid path from an inlet to a pump is common to a portion of the fluid path from a pump to the an outlet.. However, Simmons teaches a constant flow rate dual unit pump with two pump units A and B each driven by a fluid motor with separately controlled valving (valves G and L for pump unit A, valves H and M for pump unit B) such that the pumps are separately controlled and actuated, the control of the valves that operate the fluid motors controlled by electronic limit switches 30, 31, 33 and 34, the limit switches determining a piston velocity profile for each pump described by comparing figs. 1-5, wherein the suction cycle of each pump is shorter than the output cycle of each pump (compare figs. 1-5 and see col. 5, line 42 - col. 7, line 25) and the output cycles of the first and second pumps A and B overlap so that fluid is supplied at constant pressure (see fig. 3, col. 7, lines 9-17). It would have been obvious to a person having ordinary skill in the art to have modified the pumping system of Atkinson with the teaching of Simmons allowing for variable rate control to produce a smooth constant pressure delivery as the application of a known technique (variable rate control to produce constant pressure output) to a known device (the motor/pump system of Atkinson) to achieve the predictable result of providing a constant pressure fluid output.

In regard to the limitation that a portion of said sterile fluid path from said inlet to a respective one of said pumps is common to a portion of said sterile fluid path from said respective one of said pumps to said outlet, with the use of the one-way valves of Atkinson, it would have been obvious to a person having ordinary skill in the art that this constitutes a mere rearrangement of parts (the conduits and inlets and outlets being the parts) that is no more than an engineering design choice, and therefore does not patentably distinguish over the art of record absent an unexpected result.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICK HAMO whose telephone number is (571)272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles G Freay/
Primary Examiner, Art Unit 3746

/Patrick Hamo/
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